

**CWA COMPLIANCE EVALUATION INSPECTION REPORT  
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5**

**Purpose:**

Compliance Evaluation Sampling Inspection

**Facility:**

Sandway Farm, LLC  
E1411 Bolt Road  
Denmark, WI 54208  
44.341N, 87.699W

**NPDES Permit Number:**

N/A

**Date of Inspection:**

April 18, 2013

**EPA Representatives:**

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**State Representatives:**

None

**Facility Representatives:**

Exemption 6 owner

Exemption 6

**Report Prepared by:**

Joan Rogers, Environmental Scientist

**Report Date:**

September 16, 2013

Inspector Signature

 9/16/13

## 1. BACKGROUND

The purpose of this report is to describe, evaluate and document Sandway Farm's compliance with the Clean Water Act (CWA) at its Denmark, Wisconsin facility on April 18, 2013. This inspection was performed pursuant to Section 308(a) of the Federal Water Pollution Control Act, as amended.

Sandway Farm (Sandway) is a dairy operation. It maintains approximately 570 mature dairy cows and 200 heifers and calves. Another 300 head of heifers are maintained at another facility that is not owned or operated by Sandway. Based on the number of mature dairy cows, Sandway is a medium Animal Feeding Operation (AFO).

Surface flow off the production area is to the south to a perennial unnamed tributary. This perennial unnamed tributary flows 1.3 miles to the southeast to a wetland complex. The flow of surface water goes approximately 2.0 miles through the wetland before it outlets into a perennial unnamed tributary. From there, the flow goes 1.1 mile to perennial Jambo Creek, another 5.0 miles to perennial East Twin River and then 12.8 miles to the bay of Green Bay. The bay of Green Bay is a Traditional Navigable Water, as is the last 3 miles of the East Twin River.

## 2. SITE INSPECTION

**Table 1: Site Entry**

<b>Arrival Time:</b>	9:00 A.M.
<b>Temperature:</b>	Approximately 40°F
<b>Precipitation:</b>	Light rain, mist
<b>Presented credentials?</b>	Yes
<b>Credentials presented to whom?</b>	Exemption 6 owner
<b>EPA vehicle parked in approved location?</b>	Yes
<b>Location where EPA vehicle was parked?</b>	West side of Milking Parlor
<b>Disposable boots worn?</b>	Yes
<b>Other bio-security measures taken:</b>	None

**2.1 Records Review** (The following Records Review tables reflect information provided before the walk-through of the facility, unless otherwise noted.)

**Table 2: Documents**

<b>Checklist(s) Used</b>	
R5 CAFO Inspection Checklist	
<b>Facility Documents Reviewed:</b>	
None	
<b>If photographs or documents were taken, does the facility consider any to be Confidential Business Information (CBI)?</b>	No

Which information does the facility consider to be CBI?	None
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**Table 3: Facility Description**

Type of Animal	Number of Animals	Capacity	Type of Confinement
Milking Cows	510	510	Free Stall Barns
Dry Cows	60	60	30 in barns, 30 in pasture
Heifers/Calves	200	200	Barns and pasture
Minimum Number of Animals in previous 5 years:			400
Maximum Number of Animals in previous 5 years:			Currently at maximum
Number of Animals that are stabled/confined and/or fed/maintained for 45 days or more in previous 12 months:			570 Mature Dairy Cows 200 Heifers/Calves
Amount of Manure Generated per year:			5-6 million gallons liquid and unknown quantity of solid
Does the facility have an NPDES Permit?			No
SIC or NAICS code:			0241
Other facilities under common ownership (name and address): None			

**Table 4: Livestock Waste Storage**

Type of Storage	Storage Capacity	Type of Liner	Depth Markers Present	Last Time Waste was Removed	Amount of Waste Removed	Days of Storage
Storage Pond #1	750,000 gallons	Concrete	No	November 2012	Emptied completely every year and solids dredged out.	7 months of storage with Storage Pond #2
Storage Pond #2	2.25 million gallons	Clay	No	November 2012	Emptied halfway twice per year and solids dredged out every three years.	7 months of storage with Storage Pond #1

Above ground concrete bunker	Unknown					Solids are land applied as conditions allow.
<b>Records at site of storage structure design?</b>				Yes, in the NMP		
<b>Additional Information:</b>				Kewaunee County Soil and Water Conservation District designed the storage ponds. Storage Pond #1 was constructed in 1993. Storage Pond #2 was constructed in 1994.		

**Table 5: Livestock Waste Management**

<b>Describe the way manure is collected and disposed of at the facility:</b>
Solid manure and used bedding is stored for short term in a feed bunker. When conditions allow, the solids are land applied.
Manure and process wastewater from Barn #2 is scraped to a pit in the southeast corner of the barn. From here the manure is pumped to the southern portion of the Main Barn. In the Main Barn, manure and process wastewater is scraped to a center alley where it flows by gravity to Storage Pond #1. An overflow weir between Storage Pond #1 and Storage Pond #2 allows manure and process wastewater to flow into Storage Pond #2.
<b>Describe the way used bedding is collected and disposed of at the facility:</b>
Used bedding from Barn #2 and the Main Barn is scraped and managed the same as with the manure. Used bedding from the smaller barns and the calf hutches is scraped and stored in the feed bunker.
<b>Describe the way mortalities are managed at the facility:</b>
Mortalities are picked up by personnel from the Mink Ranch.
<b>Describe the way spilled drinking water is collected and disposed of at the facility:</b>
Spilled drinking water is collected and managed in the same way as the manure and process wastewater.
<b>Describe the way mist cooling water is collected and disposed of at the facility:</b>
Mist cooling water is collected and managed in the same way as the manure and process wastewater.



<b>Describe how chemicals are stored and how used or spilled chemicals are collected and disposed of at the facility:</b>
Teat dip containers and chemicals are stored in the Equipment Room by the Milking Parlor. Used chemicals are collected and managed in the same way as the manure and process wastewater.
<b>Describe the way water that has been used to wash/flush barns is collected and disposed of at the facility:</b>
Barn wash water from either barn would flow with the manure and process wastewater to Storage Pond #1.
<b>Describe the way feed is contained and how runoff from feed is collected and disposed of at the facility:</b>
Feed is contained in bunkers and silos. There is no containment for the runoff of leachate from the bunkers or from any runoff of leachate from the silos.
<b>If a dairy, describe how process wastewater from the plate cooler water is collected and disposed of at the facility:</b>
Plate cooler water is collected in a 4,000 gallon tank for reuse as drinking water for the cows.
<b>If a dairy, describe how process wastewater from the cleaning of the milking parlor is collected and disposed of at the facility:</b>
Wash water from the milking parlor is directed to the center alley in the Main Barn and then flows to Storage Pond #1.
<b>If a dairy, describe how process wastewater from the cleaning of the milk tanks is disposed of at the facility:</b>
Wash water from the milk tanks is directed to the center alley in the Main Barn and then flows to Storage Pond #1.

**Table 6: Land Application and Disposal of Manure and Process Wastewater**

<b>When was the last time a sample was taken of the manure and/or process wastewater?</b>	Summer 2012
<b>Describe the process to take the manure and/or process wastewater sample.</b>	The sampling is done by a contractor and is collected during the loading process as the manure in the storage pond is agitated.

<b>Number of acres available for land application:</b>	1200 acres
<b>Are land application records kept?</b>	Exemption 6 stated that land application records are maintained.
<b>Is manure transferred off-site to another party?</b>	Some manure is given to a neighbor.
<b>Are manure transfer records maintained?</b>	Yes

**Table 7: Receiving Surface Waters**

<b>Describe the surface flow pathways:</b>	
Flow from the north side of the Main Barn flows to a roadside ditch which flows to the east to a storm water channel EPA will call the East Ditch. The East Ditch flows south to the perennial unnamed tributary. Flow on the furthest west side of the production area flows to the west to a storm water pathway EPA will call the West Ditch. The West Ditch flows south to the perennial unnamed tributary. Flow off the south side of the feed bunkers, flows south into Pasture #1 and then east. It crosses into Pasture #2, then turns and flows south again to the perennial unnamed tributary. Flow off the south side of Barn #2 and the calf hutches flows south into Pasture #2. Flow off the east side of the calf hutches flows into Pasture #3. Flow from the storm water pipes that outlet into Pasture #3 flows to the east and merges with the East Ditch which flows south to the perennial unnamed tributary.	
<b>How many months out of the year is there flow in the nearest surface water pathway:</b>	Exemption 6 stated that there is water in the perennial unnamed tributary for at least nine months out of the year.
<b>Are there any storm water pathways entering the facility?</b>	No
<b>Are there any clean water ponds on site?</b>	No
<b>What is the name of the first Traditional Navigable Water (TNW) for surface flow from the facility?</b>	East Twin River three miles from the mouth of the river.
<b>Is the surface water pathway nearest to the facility considered to be ephemeral, intermittent or perennial?</b>	Perennial
<b>Is the surface water pathway nearest to the facility considered to be impaired?</b>	No

**Table 8: Nutrient Management Plan**

<b>NMP on site?</b>	Yes. EPA did not review the NMP due to time constraints.
<b>Date NMP Submitted:</b>	Approximately 20 years ago the NMP was developed and it was last updated three years ago.
<b>Planner Name/Company:</b>	Exemption 6 with the Tisch Mills Farm Center.
<b>Storage Description:</b>	EPA did not review the NMP.
<b>Amount of Manure Generated:</b>	

**Table 9: Land Application Records**

EPA did not observe any land application records during the inspection.

**Table 10: Facility Records**

EPA did not observe any facility records during the inspection.

**2.2 Walkthrough of the Facility**

After filling out the Region 5 CAFO Checklist, EPA began the walkthrough of the facility at the Machine Shed on the west side of the facility. Exemption 6 accompanied EPA on the walkthrough.

There are 12 close-up dry cows inside the Machine Shed. Feed for these cows is placed on the ground outside the barn in a feed lane. Although there is an overhang with a gutter on the roof of the building, some feed could flow with the precipitation to the south. There was a small amount of track in/track of raw materials from door of the Machine Shed.



IMGP0004: Machine Shed on west side of facility also houses a dozen close-up dry cows.

Location: East side of Machine Shed

Facing: Northwest

Date/Time: 4/18/13 10:10 A.M.





**IMGP0006:** A roof overhang and eave gutters on Machine Shed help keep the precipitation from landing on feed and transporting it.

**Location:** East side of Machine Shed

**Facing:** Southwest

**Date/Time:** 4/18/13 10:10 A.M.



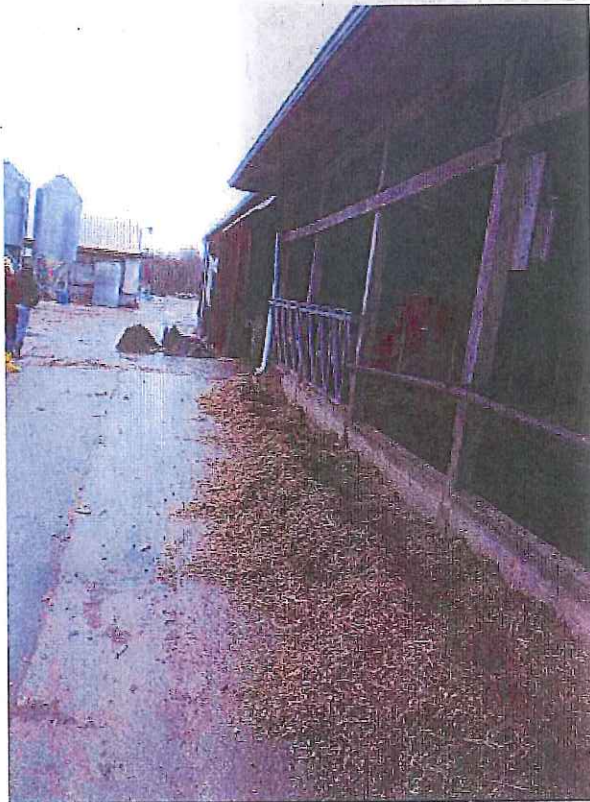
**IMGP0007:** Small amount of track in/track out in front of Machine Shed.

**Location:** East side of Machine Shed

**Facing:** South

**Date/Time:** 4/18/13 10:11 A.M.





IMGP0008: Feed for close-up dry cows is open to the elements.

Location: East side of Machine Shed

Facing: South

Date/Time: 4/18/13 10:12 A.M.

EPA walked south between the Dry Cow Barn and a silage bunker south of the Machine Shed. There was some spilled feed beneath the silos on the north side of the Dry Cow Barn. The spilled feed could be transported with precipitation to the south. EPA noticed that there was silage spilled over the wall on the west side of this silage bunker. A ditch, which EPA will call the West Ditch, flowed along the edge of the production area to the south. The West Ditch flowed to the perennial unnamed tributary to the south.

Additional feed storage bunkers were located south of the Dry Cow Barn. Snow, with spilled feed incorporated in it, had been pushed to the edge of the silage pad and into the West Ditch. There was no constructed berm on the west side of the silage pad to prevent raw materials and process wastewater from being flushed to the West Ditch during precipitation events. EPA observed channelization of flow off the silage pad to the West Ditch and noted that there was water in the West Ditch on the day of the inspection.





IMGP0013: Feed below the bulk bins can be transported with storm water to the south.  
 Location: Bulk bins on north side of Dry Cow Barn  
 Facing: East  
 Date/Time: 4/18/13 10:14 A.M.



IMGP0017: Silage spilled on the ground west of the Silage Bunker can be transported to the West Ditch. There is snow piled under the silage.  
 Location: Southwest of Silage Bunker  
 Facing: North  
 Date/Time: 4/18/13 10:18 A.M.





IMGP0018: Snow and silage from silage pad are pushed off the silage pad into the West Ditch.

Location: West side of silage pad

Facing: South

Date/Time: 4/18/13 10:18 A.M.



IMGP0022: Silage pad has no berm on the west side to prevent leachate from flowing into the West Ditch.

Location: West side of silage pad

Facing: South

Date/Time: 4/18/13 10:19 A.M.





IMGP0024: West Ditch has flow in it under the silage that has been pushed off the silage pad.

Location: West side of silage pad

Facing: North

Date/Time: 4/18/13 10:20 A.M.



IMGP0025: West Ditch has flow in it under the silage that has been pushed off the silage pad.

Location: West side of silage pad

Facing: South

Date/Time: 4/18/13 10:20 A.M.





IMGP0027: Flow of surface water from the silage pad to the West Ditch. Note that there is water in the channel leading off from the silage pad.

Location: West side of silage pad

Facing: Northeast

Date/Time: 4/18/13 10:25 A.M.



IMGP0031: Flow of water in the West Ditch and through the silage that is pushed off silage pad.

Location: West side of silage pad

Facing: Northwest

Date/Time: 4/18/13 10:26 A.M.





IMGP0032: Flow of water in the West Ditch and through the silage that is pushed off silage pad.

Location: West side of silage pad.

Facing: Southwest

Date/Time: 4/18/13 10:26 A.M.



IMGP0033: Another pile of snow and silage from the silage pad is piled on the southwest corner of the silage pad.

Location: Southwest corner of silage pad

Facing: South

Date/Time: 4/18/13 10:26 A.M.



The southernmost feed storage bunker was being used to store manure solids. A flow of process wastewater from the manure stack flowed out of the bunker and some turned to the south where it went down the driveway to a pasture south of the feed storage bunkers, Pasture #1. Process wastewater from the manure stack also flowed directly to the west to the West Ditch.



IMGP0040: Manure is stacked in the southernmost Silage Bunker. Process wastewater pathway from the manure is identified by red arrows.

Location: Southwest corner of silage pad

Facing: East

Date/Time: 4/18/13 10: A.M.

EPA also observed a small bunker on the north side of the silage pad that was used for storing sawdust. It had a significant amount of track in/track out in front of it. The Dry Cow Barn had a feed alley on the ground on the south side. Feed placed on the ground was not protected by a roof overhang and could flow with precipitation to the south and west.

EPA noticed that the silage pad was tilted to the west so that flow of precipitation would flow off the pad to the west. There was nothing in place to prevent the raw materials and leachate from flowing with the precipitation to the west and to the West Ditch or to the south and to Pasture #1.





IMGP0041: Process wastewater from the manure flows out of the bunker and down the driveway to Pasture #1 and to the West Ditch.

Location: Southwest corner of silage pad

Facing: Southeast

Date/Time: 4/18/13 10:30 A.M.



IMGP0042: Silage pad is tilted to the west. There is no curbing to prevent process wastewater from reaching the West Ditch.

Location: North end of silage pad

Facing: South

Date/Time: 4/18/13 10:31 A.M.





IMGP0043: Sawdust stored in bunker has a significant amount of track in/track out.  
 Location: North end of silage pad  
 Facing: East  
 Date/Time: 4/18/13 10:31 A.M.



IMGP0045: Feed for dry cows can be transported by precipitation to the West Ditch.  
 Location: South side of Dry Cow Barn  
 Facing: West  
 Date/Time: 4/18/13 10:32 A.M.

Sandway utilizes a product made from pulverized newspaper as alternative bedding. The alternative bedding is mixed with sand before being placed in the free stalls in the barns.



On the day of the inspection, a pile of this raw material was located on the ground south of Barn #2 and east of the northernmost silage bunker. The alternative bedding leached a milky leachate down the hillside to the south and into the northwest corner of Pasture #2.

EPA also observed the collection channel for manure below the floor on the south side of Barn #2. Manure is scraped to a grate where it falls to the collection channel and then flows by gravity to a pit at the southeast corner of the barn. From here, the manure is pumped to the manure channel in the Main Barn.

Calf hutches were located on the south side of Barn #2 and the Main Barn. There was no containment for the manure and process wastewater from the calf hutches. Manure and process wastewater would flow to the south and to Pasture #2.

EPA observed channelization of the precipitation from the south side of Barn #2 to the north side of Pasture #2. The precipitation flowed through piles of used bedding from the calf hutches before flowing to Pasture #2.



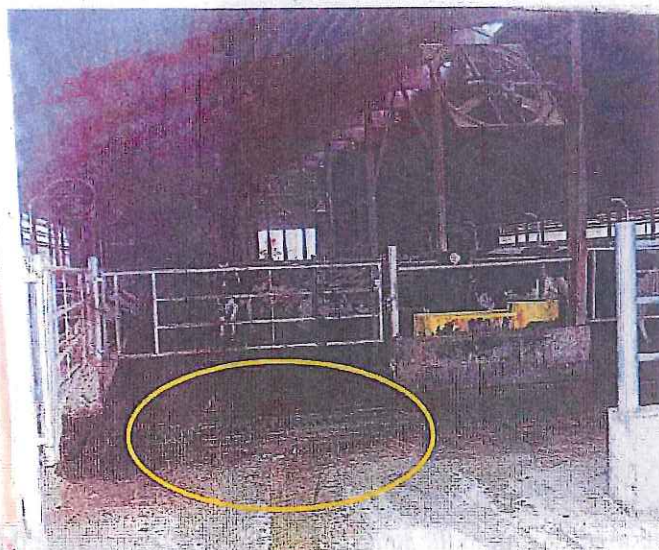
IMGP0050: Sandway utilizes a product made from pulverized newspaper as alternative bedding.

Location: North of Silage Bunkers

Facing: Southeast

Date/Time: 4/18/13 10:35 A.M.





IMGP0051: Inside Barn #2. Manure is manually scraped to grate in foreground where manure falls into a collection channel. The manure flows via gravity in the collection channel to a pit in the southeast corner of the barn. Yellow circle denotes location of the grate in the floor where manure is pushed into.

Location: South side of Barn #2

Facing: North

Date/Time: 4/18/13 10:36 A.M.



IMGP0056: Calf hutches on south side of Barn #2. No containment for runoff from the calf hutches and runoff is able to flow to Pasture #2.

Location: South of Barn #2

Facing: Northeast

Date/Time: 4/18/13 10:39 A.M.





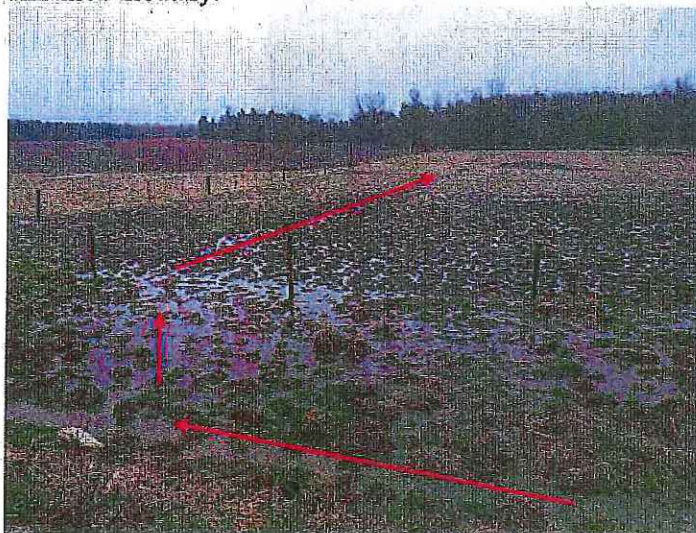
IMGP0057: Channelization of flow from the south side of the Dry Cow Barn and the south side of Barn #2. Flow goes through a pile of used bedding from the calf hutches. Red row denotes location and direction of flow.

Location: South of Barn #2

Facing: South

Date/Time: 4/18/13 10:39 A.M.

After flowing into the north side of Pasture #2, the flow turns south toward the perennial unnamed tributary.



IMGP0062: Flow pathway through Pasture #2 flows to the south. Red arrows denote general flow pathway location and direction.

Location: North of Pasture #2

Facing: South

Date/Time: 4/18/13 10:41 A.M.



Additional piles of used bedding from the calf hutches were piled on the southeast corner of the production area, south of the Main Barn. Manure and process wastewater flowed off these piles and into the northwest corner of Pasture #3.



IMGP0064: Bedding from calf hutches on top of snow pile pushed to southeast corner of calf hutch area. Fence line delineates Pasture #3 on left from Pasture #2 on right.

Location: North of Pasture #2

Facing: Southeast

Date/Time: 4/18/13 10:45 A.M.

EPA also noted that the cattle walkway from Barn #2 to the Main Barn did not have complete containment for the manure and process wastewater. Manure and process wastewater from the walkway could flow with precipitation to the south.

Since the production area is elevated, EPA could see the layout of the pastures below. In the northwest corner of Pasture #3, EPA observed two white pipes that appeared to be discharging flow. The flow of liquid went to the east then turned to go to the south.

Exemption 6 stated that the flow was storm water from between the barns. EPA planned to observe the inlets for these pipes when they reached that area of the facility. EPA continued to the east along the south side of the manure holding ponds.





IMGP0065: Cattle walkway from Barn #2 does not have complete containment for manure and process wastewater.

Location: South of Barn #2

Facing: East

Date/Time: 4/18/13 10:47 A.M.



IMGP0069: White pipes discharge storm water to Pasture #3 which channels and flows to the east side of the Pasture #3. Red arrows denote location and direction of flow from the white pipes.

Location: Northwest corner of Pasture #3

Facing: East

Date/Time: 4/18/13 10:52 A.M.



The holding pond on the west, the 1<sup>st</sup> Stage Holding Pond, was a concrete lined square manure pond. It was very full and had less than six inches of freeboard. EPA observed additional calf hutches on the south side of the pond. There was no containment for the manure and process wastewater from the calf hutches. Manure and process wastewater from the calf hutches would flow to the south and to the north end of Pasture #3.

EPA also observed the manure channel that allowed manure from the Main Barn to flow to the east by gravity to the 1<sup>st</sup> Stage Holding Pond. The manure channel was filled and flooded with manure. EPA speculated that the manure pond had recently overtopped the wall on the southwest side. The vegetation in this area was covered with manure solids and was pushed down in the direction away from the pond. An overflow notch from the 1<sup>st</sup> Stage Holding Pond to the 2<sup>nd</sup> Stage Holding Pond was installed in the berm between the two ponds. The notch was not visible due to the high level of manure in both ponds.



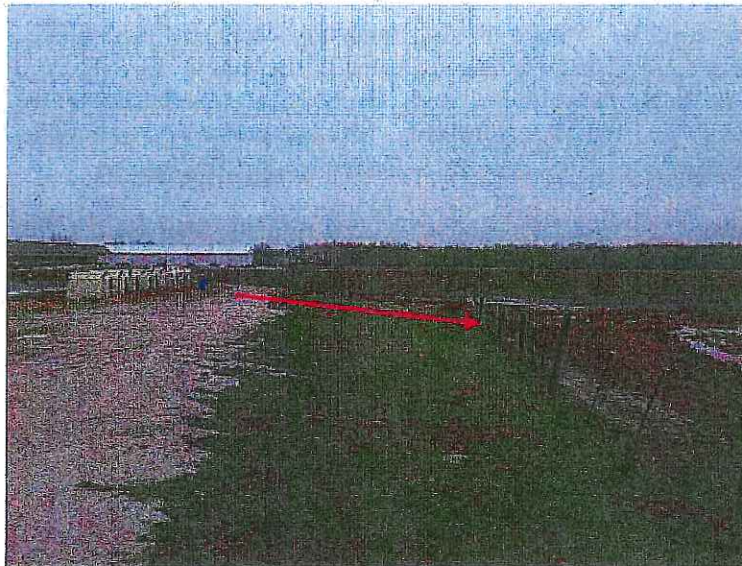
IMGP0072: 1<sup>st</sup> Stage Manure Holding Pond is just to the east of the Main Barn. The holding pond is full. Manure channel from Main Barn is under the white pipe on the east side of the barn.

Location: South of 1<sup>st</sup> Stage Manure Holding Pond

Facing: North

Date/Time: 4/18/13 10:54 A.M.





IMGP0074: Manure and process wastewater from the calf hutches would flow to the south and then to the north end of Pasture #3, which is to the right of the fence in the photo.

Location: South of 1<sup>st</sup> Stage Holding Pond

Facing: East

Date/Time: 4/18/13 10:54 A.M.



IMGP0075: Southeast corner of 1<sup>st</sup> Stage Holding Pond. Holding pond is full and appears to have overtopped the wall.

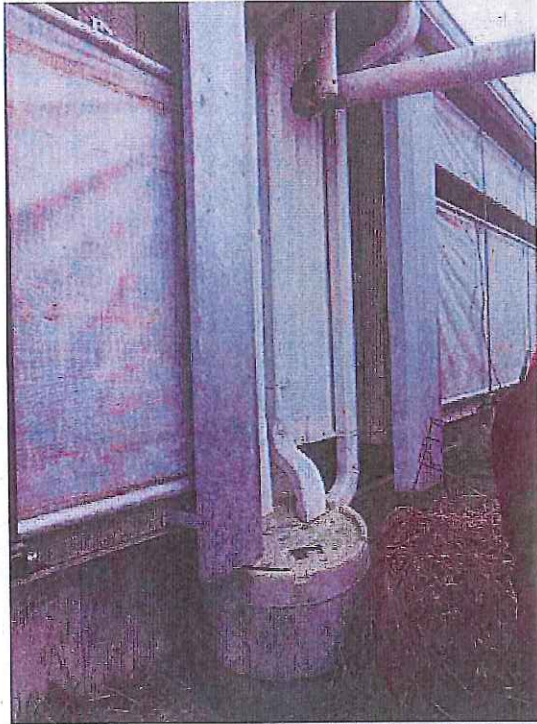
Location: Southeast corner of 1<sup>st</sup> Stage Holding Pond

Facing: Southeast

Date/Time: 4/18/13 10:55 A.M.



EPA observed that the eave gutters on the Main Barn were tied into downspouts. **Exemption 6** stated that the storm water discharged through one of the white pipes that EPA previously saw in the north side of Pasture #3 (photo IMGP0069).



IMGP0076: Eave gutters are piped and discharge through a white pipe in the hillside on northwest corner of Pasture #3 (IMGP0069).

Location: East side of Main Barn

Facing: Northwest

Date/Time: 4/18/13 10:55 A.M.

When EPA arrived at the facility, there were five tanker trucks lined up by the manure ponds. During the inspection walk through **Exemption 6** stated that the tanker trucks were there to remove manure from the ponds and haul it to a neighbor who had capacity in their storage pond. He said that each tanker held 5,500 gallons of manure. By the time EPA reached the storage ponds on the walk through, the tanker trucks were gone.





IMGP0077: 1<sup>st</sup> Stage Manure Holding Pond is full and backing up into the channel for the Main Barn. Manure solids on vegetation between the pond and the barn appear to indicate that the pond had overflowed.

Location: Between 1<sup>st</sup> Stage Manure Holding Pond and Main Barn.

Facing: Northeast

Date/Time: 4/18/13 10:56 A.M.



IMGP0080: It appears that the 1<sup>st</sup> Stage Manure Holding Pond overflowed onto the ground. Note the berm between the two ponds is barely above the manure level.

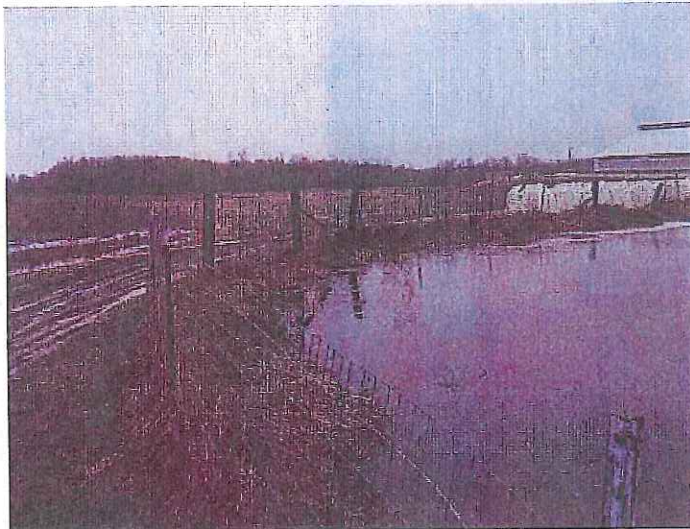
Location: Southwest corner of 1<sup>st</sup> Stage Manure Holding Pond

Facing: Northeast

Date/Time: 4/18/13 11:00 A.M.



EPA walked east to the southeast corner of the 2<sup>nd</sup> Stage Manure Holding Pond and then north on its east side. EPA noted that the 2<sup>nd</sup> Stage Manure Holding Pond was full. EPA also observed the flow in the East Ditch which came from the north.



IMGP0085: 2<sup>nd</sup> Stage Manure Holding Pond is full. Five tanker trucks were lined up to remove manure from this pond when EPA arrived at the facility.

Location: Southeast corner of 2<sup>nd</sup> Stage Manure Holding Pond

Facing: South

Date/Time: 4/18/13 11:03 A.M.



IMGP0087: East Ditch flows south on the east side of the facility.

Location: East of 2<sup>nd</sup> Stage Manure Holding Pond

Facing: Southeast

Date/Time: 4/18/13 11:04 A.M.



At the northeast corner of the facility, a culvert directed flow from a roadside ditch to the East Ditch. The culvert went under a facility driveway. Storm water also flows to the East Ditch via a pipe under Bolt Road from the north. A green standpipe indicated the location of the pipe under Bolt Road.

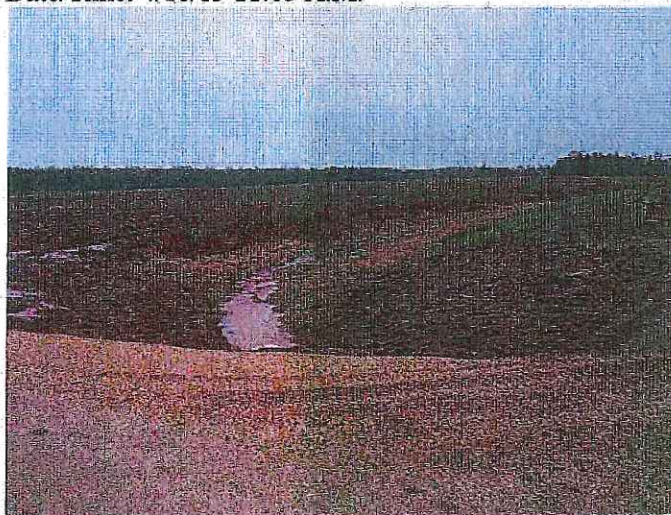


IMGP0089: Culvert accepts flow from the roadside ditch and directs it to the East Ditch that flows to the south along the east side of the facility. Green standpipe indicates location of pipe under Bolt Road.

Location: Along Bolt Road and north of the 2<sup>nd</sup> Stage Manure Holding Pond

Facing: West

Date/Time: 4/18/13 11:05 A.M.



IMGP0090: Outlet of the culvert from roadside ditch flows under facility driveway. Flow goes to the south in the East Ditch.

Location: Along Bolt Road and north of the 2<sup>nd</sup> Stage Manure Holding Pond

Facing: Southeast

Date/Time: 4/18/13 11:06 A.M.



EPA walked east along the south side of the new Calf Barn which houses 136 calves. The roof overhangs the feed lane to prevent feed runoff. There are no gutters on the Calf Barn roof. Raw materials were stored in the west end of the barn and the load in door was on the east side. EPA did not observe any problems or issues with the Calf Barn on the day of the inspection.

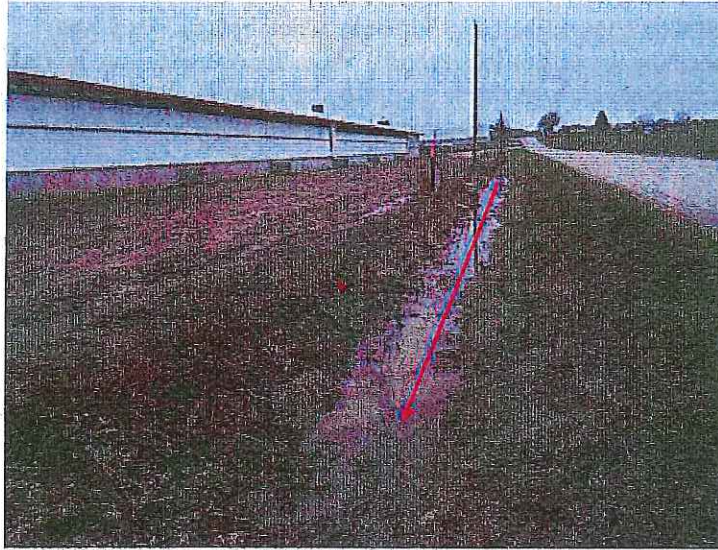


IMGP0092: The new Calf Barn holds 136 calves.  
Location: East of the 2<sup>nd</sup> Stage Manure Holding Pond  
Facing: Northeast  
Date/Time: 4/18/13 11:07 A.M.

EPA walked west on the north side of the Calf Barn. The area north of the barn had not been seeded with vegetation yet. The roadside ditch flowed from west to east in front of the barn. There was water in the roadside ditch all the way to the Main Barn.

At the northeast corner of the Main Barn, EPA observed piles of manure and used bedding at both the northeast and northwest corners of the Main Barn that had been manually scraped out of the barn and since there was no barrier to prevent it, had also fallen into the roadside ditch. The manure and used bedding would be carried with the flow in the roadside ditch to the east and to the East Ditch where it eventually flowed into the perennial unnamed tributary.





IMGP0096: Roadside ditch along Bolt Road and north of the Calf Barn. Vegetation hasn't been established in yard north of the barn yet. Flow in culvert is to the west, as indicated by the red arrow.

Location: North of the Calf Barn

Facing: West

Date/Time: 4/18/13 11:10 A.M.



IMGP0099: Main Barn has manure and used bedding piled in front of the barn (location indicated by red circle). Manure and used bedding is also in the roadside ditch in front of the Main Barn.

Location: Northeast of Main Barn

Facing: Southwest

Date/Time: 4/18/13 11:13 A.M.





IMGP0102: Manure and used bedding, including the alternate bedding is piled in front of the northeast corner of the Main Barn. It is also in the roadside ditch.

Location: Northeast of the Main Barn

Facing: East

Date/Time: 4/18/13 11:15 A.M.



IMGP0106: Manure and used bedding in the roadside ditch north of the Main Barn from the northwest corner of the barn.

Location: Northwest corner of the Main Barn

Facing: Northeast

Date/Time: 4/18/13 11:17 A.M.



EPA walked to the south around the west side of the Milking Parlor. Between the Main Barn and Barn #2 were two inlets in the ground for the storm water. These inlets were tied to piping that discharged in the hillside in the northwest corner of Pasture #3. Track in and track out lying around the outside of the Main Barn could be transported with the precipitation to the inlets and be discharged to the pasture. Sandway also maintained approximately one dozen calf hutches in this area. Manure and process wastewater from the calf hutches was not contained and would flow with precipitation to either of the inlets. EPA also observed a large pile of used bedding that had no containment for the process wastewater from it. The process wastewater would flow to the inlet toward the south end of the area between the barns.



IMGP0110: Track in and track out of raw materials outside the Main Barn can flow to the inlet at the north end of the area between the Main Barn and Barn #2.

Location: South of the Milking Parlor

Facing: East

Date/Time: 4/18/13 11:22 A.M.





**IMGP0116:** Piles of used bedding scraped up with the snow are piled in the yard between the Main Barn and Barn #2. Process wastewater from the bedding can flow to this inlet on the south side of the area between the barns. The flow from the pipe outlets into Pasture #3 from a white pipe as shown previously in photo IMGP0069.

**Location:** South of Milking Parlor

**Facing:** Southeast

**Date/Time:** 4/18/13 1:02 P.M.



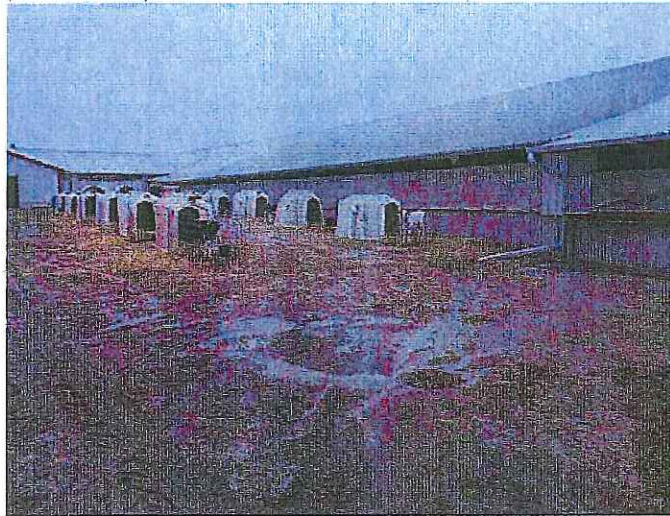
**IMGP0109:** Manure and process wastewater from the calf hutches can flow to the inlet and then to Pasture #3 via a pipe.

**Location:** South of the Milking Parlor

**Facing:** South

**Date/Time:** 4/18/13 11:21 A.M.





IMGP0117: Manure and process wastewater from the calf hutches also can flow to the south to the second storm water inlet.

Location: South of Milking Parlor

Facing: Northeast

Date/Time: 4/18/13 1:02 P.M.

Milking Parlor wash water flows to a sump from where it is then pumped to the manure channel in the Main Barn. From there, it flows with the manure to the 1<sup>st</sup> Stage Manure Holding Pond.



IMGP0112: Inside the back of the Milking Parlor. Sump, next to refrigerator (circled with yellow circle), receives flow from Milking Parlor wash water.

Location: South side of the Milking Parlor

Facing: Northeast

Date/Time: 4/18/13 11:22 A.M.



EPA prepared sample bottles then returned to take samples at Sandway and observe the confluences of the East Ditch and West Ditch with the perennial unnamed tributary. EPA took the first sample, S01, titled "Bunker", at 1:20 P.M. from the flow of leachate from the manure pile in the southernmost feed bunker. While EPA was preparing the bottles, the precipitation that had been occurring during the walk through of the facility had diminished. Also, Exemption 6 had deposited a pile of straw in the flow pathway from the manure pile. There was a flow of process wastewater from the manure pile.

EPA offered to split the samples with Exemption 6 and he accepted the offer. He was informed that the samples would be preserved with sulfuric acid for him, but he needed to get the samples refrigerated or on ice. Exemption 6 was also made aware of the holding times to get the samples analyzed. Exemption 6 declined to split the fecal coliform samples.



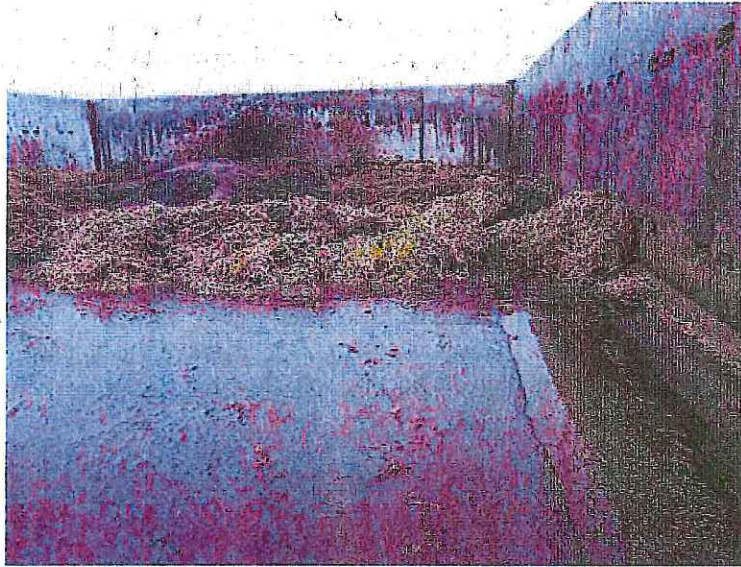
IMGP0121: Sample #1, S01, "Bunker", was taken at 1:20 P.M. from the flow pathway from the manure that was stored in the feed bunker.

Location: Entrance to the southernmost feed bunker

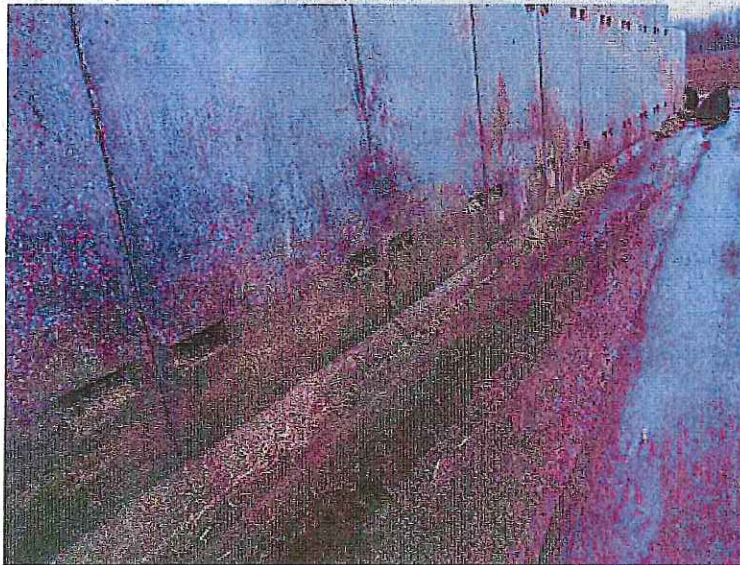
Facing: Southeast

Date/Time: 4/18/13 1:21 P.M.





IMGP0122: By the time sampling started, the rain had ceased and some straw in the flow pathway from the manure in the bunker. Exemption 6 had piled  
 Location: Inside the southernmost feed bunker  
 Facing: Southeast  
 Date/Time: 4/18/13 1:22 P.M.



IMGP0123: Flow pathway off the manure stored in the feed bunker.  
 Location: Inside the southernmost feed bunker  
 Facing: West  
 Date/Time: 4/18/13 1:22 P.M.





IMGP0124: Fecal coliform sample S01 "Bunker" was taken at 1:20 P.M. from flow pathway off the manure stored in the feed bunker.

Location:

Facing:

Date/Time: 4/18/13 1:24 P.M.

EPA proceeded to walk the length of the West Ditch to the confluence of the perennial unnamed tributary. At times, there was little flow in the West Ditch and where the ground was flat, there were pools of water. Near the confluence with the perennial unnamed tributary, the West Ditch flowed through some tall vegetation. EPA observed flow or very saturated conditions all the way to the confluence with the West Ditch.





IMGP0125: Flow from manure in feed bunker flows to the West Ditch (indicated by blue arrow). Waste silage is piled up with snow along the West Ditch. West Ditch flows into Pasture #1.

Location: West of feed storage bunkers

Facing: South

Date/Time: 4/18/13 1:25 P.M.



IMGP0131: West Ditch pools in the pathway.

Location: West side of Pasture #1

Facing: South

Date/Time: 4/18/13 1:28 P.M.





IMGP0134: West Ditch before the confluence with the perennial unnamed tributary.  
 Perennial unnamed tributary is in the tree line.  
 Location: West side of Pasture #1  
 Facing: Southeast  
 Date/Time: 4/18/13 1:28 P.M.



IMGP0138: Confluence of the West Ditch with the perennial unnamed tributary.  
 Location: Southwest corner of Pasture #1  
 Facing: South  
 Date/Time: 4/18/13 1:32 P.M.



Some of the precipitation flow through piles of waste feed on the southwest corner of the production area would flow into Pasture #1. The flow was broad and went to the south before turning to the east approximately halfway into the pasture. The flow was generally channelized through the pasture and crossed into Pasture #2 and then turned south again. At the southern end of Pasture #2, the flow formed a large pool of water. It spread all the way to the east side of Pasture #2 where the East Ditch flowed south just outside the fence line of Pasture #2. The actual confluence of the flow through Pasture #2 and the East Ditch with the perennial unnamed tributary was undefined since the perennial unnamed tributary had left its banks and the whole area was flooded.

EPA then walked north along the East Ditch. There was flow in the East Ditch all the way to Bolt Road.



IMGP0141: Flow that goes south from the piles of silage flows into Pasture #1.

Location: Pasture #1

Facing: Northwest

Date/Time: 4/18/13 1:34 P.M.





**IMGP0145: The water pathway takes an easterly course through Pasture #1.**

**Location: Pasture #1**

**Facing: Southeast**

**Date/Time: 4/18/13 1:35 P.M.**



**IMGP0147: The flow pathway leaves Pasture #1 and enters Pasture #2.**

**Location: East side of Pasture #1**

**Facing: Southeast**

**Date/Time: 4/18/13 1:36 P.M.**





IMGP0149: Once in Pasture #2, the flow turns to the south.

Location: Pasture #2

Facing: North

Date/Time: 4/18/13 1:39 P.M.



IMGP0150: Just north of the confluence of the flow pathway in Pasture #2 and the perennial unnamed tributary.

Location: Southern end of Pasture #2

Facing: Southeast

Date/Time: 4/18/13 1:39 P.M.





IMGP0151: Flow pathway from Pasture #2 is on the left side of the photo. On the right side is the East Ditch.

Location: Southern end of Pasture #2

Facing: North

Date/Time: 4/18/13 1:41 P.M.



IMGP0152: Confluence of flow pathways with perennial unnamed tributary.

Location: Southern end of Pasture #2

Facing: Southeast

Date/Time: 4/18/13 1:41 P.M.





IMGP0156: The regular channel of the perennial unnamed tributary is in the tree line.

Location: Southern end of Pastures #2 and #3

Facing: Southwest

Date/Time: 4/18/13 1:43 P.M.



IMGP0158: East Ditch is well defined on the east side of Pasture #2. Fence delineates the eastern edge of Pasture #2.

Location: East side of Pasture #2

Facing: South

Date/Time: 4/18/13 1:43 P.M.





IMGP0168: Looking downstream at the East Ditch as it flows south along the east side of Pasture #3.

Location: Northeast corner of Pasture #3

Facing: South

Date/Time: 4/18/13 1:52 P.M.

At the northeast corner of Pasture #3, EPA observed the flow pathways coming from the white pipes in the hillside in the northwest corner of Pasture #3. EPA took sample number S02, named "Pipe Area", at 1:52 P.M. from the pool of water at the east fence line of Pasture #3 where the flow from the pipes that discharge flow into Pasture #3 would confluence with the East Ditch.





IMGP0170: Sample number S02, "Pipe Area", was taken at 1:52 P.M. from the pool of water at the east fence line of Pasture #3 where the flow from the pipes that discharge flow into Pasture #3 would confluence with the East Ditch.

Location: Northeast corner of Pasture #3

Facing: Northwest

Date/Time: 4/18/13 1:59 P.M.

EPA went to the pipe outlets and observed that one of the pipes had liquid flowing from it. EPA took sample S03, named "North Pipe", at 2:03 P.M. from the northernmost pipe of the two pipes that discharge flow to Pasture #3.



IMGP0171: Sample S03, "North Pipe", was taken at 2:03 P.M. from the northernmost pipe of the two pipes that discharge flow to Pasture #3.

Location: Pipe outlet in Pasture #3

Facing: Down

Date/Time: 4/18/13 2:09 P.M.





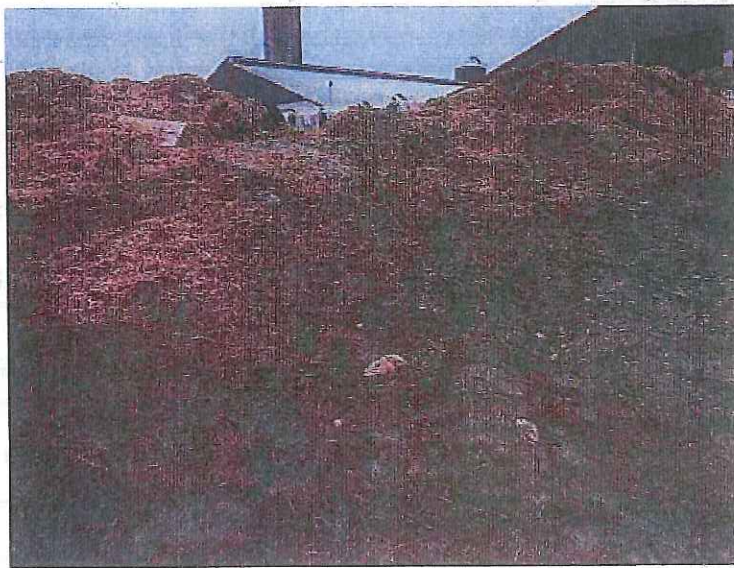
IMGP0172: Sample S03, "North Pipe", was taken at 2:03 P.M. from the flow from the northernmost pipe of the two pipes that discharge flow to Pasture #3.

Location: Pipe outlet in Pasture #3

Facing: East

Date/Time: 4/18/13 2:10 P.M.

Above the pipes at the top of the hillside, piles of used bedding were pushed with the snow to the edge of the production area. Manure and process wastewater could flow with precipitation to the south to Pasture #3 and then eventually to the intermittent unnamed tributary.



IMGP0175: Pile of snow with used bedding allows process wastewater to flow down the hillside into the northwest corner of Pasture #3.

Location: Northwest corner of Pasture #3

Facing: Northwest

Date/Time: 4/18/13 2:14 P.M.

EPA concluded the sampling and walked to the location of the EPA vehicle. EPA created a trip blank, preserved the samples and conducted a closing conference.

Exemption 6 had to leave and instructed EPA to leave his samples in a cooler that he provided. EPA removed their protective booties and left them at the facility. EPA concluded the inspection and exited the Sandway Farm at 2:45 P.M.

### 2.3 Closing Conference and Post-Inspection

**Table 11: Post Walk-Through**

Were specific "Potential Violations" discussed with facility personnel?	Yes
Were specific "Areas of Concern" discussed with facility personnel?	Yes
<b>Compliance assistance materials given to facility personnel:</b>	
Concentrated Animal Feeding Operations Final Rulemaking – Fact Sheet	
U.S. EPA Small Business Resources Information Sheet	
NRCS Most Common Conservation Practices for Confined Livestock Fact Sheet	
Environmental Quality Incentives Program (EQIP) Brochure	
<b>Exit Time:</b>	2:45 P.M.
<b>Disposable Boots Left at Facility?</b>	Yes
<b>Vehicle Washed after leaving facility?</b>	Yes
<b>Date and Time that vehicle was washed:</b>	4/19/13 at 6:30 A.M.

**Table 12a: Sampling Information**

Were samples taken?	Yes
Were samples split with facility?	Yes
Number of samples taken?	Four
Was a trip blank created?	Yes
Identify which sample is the trip blank.	S04
Were field duplicate samples taken (1 duplicate per 20 samples)?	No
Identify which sample(s) is/are the field duplicate(s)	N/A
Were equipment blanks taken (if more than one type of equipment was used to collect samples)?	No
Identify which samples were equipment blanks.	N/A
<b>List chain of custody for fecal coliform samples:</b>	Joan Rogers, EPA, to Pace Analytical Lab on 4/18/13 at 3:46 P.M.
<b>List chain of custody for nutrient and general chemistry samples:</b>	Joan Rogers, EPA, to Rob Snyder, EPA CRL, on 4/19/13 at 10:15 A.M.



<b>Location where samples were preserved:</b>	At Sandway Farm
<b>Name of people involved with sample preservation:</b>	Joan Rogers, Jonathan Moody, Rhiannon Dee
<b>Time of sample preservation:</b>	Approximately 2:30 P.M.
<b>Were samples shipped to a lab?:</b>	No
<b>Name/Address of shipping location:</b>	N/A
<b>Date and time that samples were dropped off for shipping:</b>	N/A
<b>Weather conditions at the time of sample collection:</b>	45°F, no precipitation
<b>Camera name and type used to photograph sample collection:</b>	Pentax Optio GPS-1

**Table 12b: Facility Sample Information**

Number	Name	Location	Date	Time	Collector	Color/ Smell	Photo #	Photo- grapher	Method of Collection	Tag Number	# of Sulfuric Acid Ampoules
S01	Bunker	Southern feed bunker	4/18/13	1:20 P.M.	Joan Rogers	Brown coffee with light cream/ Manure	IMGP0120 IMGP0121 IMGP0124	Jonathan Moody	Grab	065131 065132	2
S02	Pipe Area	East fence line for Pasture #3	4/18/13	1:52 P.M.	Rhiannon Dee	Light brown/ none noticed	IMGP0169 IMGP0170	Jonathan Moody	Grab	065133 065134	1
S03	North Pipe	From the northern white pipe	4/18/13	2:03 P.M.	Rhiannon Dee	Clear/ none noticed	IMGP0171 IMGP0172	Jonathan Moody	Grab	065135 065136	1
S04	Bradley	Field Blank	4/18/13	2:35 P.M.	Joan Rogers	Clear/ none noticed	None taken	N/A	Grab	065137 065401	1



**Table 13: Sample Results**

Sample ID	Sample Description (all liquid samples unless otherwise noted)	Biochemical Oxygen Demand (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrate-Nitrite N (mg/L)	Ammonia as N (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Fecal Coliform (CFU/100ml)
	<i>Typical limits</i>			<i>0.1 *</i>		<i>.075**</i>			<i>200**</i>
S01	Bunker	5,800	523	3.34	113	124	8520	910	2,900,000
S02	Pipe Area	210	19.6	3.34	3.86	3.89	820	212	23,000
S03	North Pipe	63	8.37	7.06	2.40	1.64	700	84	11,200
S04	Bradley	U	U	0.07	U	U	U	U	

U = Not Detected

In Wisconsin, there are no Water Quality Standards for Biochemical Oxygen Demand, Total Kjeldahl Nitrogen, Nitrate-Nitrite, Ammonia as Nitrogen, Total Dissolved Solids and Total Suspended Solids but a limit for Nitrate-Nitrite is provided and is meant to be a benchmark for comparison only.

\* Maximum Nitrate-Nitrite amount for aquatic life (North Carolina State University Water Quality Group)

\*\*Maximum Total Phosphorus limit for all other unidirectional streams/rivers not listed in Chapter NR 102.6 (3) (a) of Wisconsin Administrative Code.

\*\*\*Although there are no effluent limits for CAFOs, the limit in Wisconsin for Fecal Coliform in a stream for general use is 200 colonies/100ml. (Chapter NR 102, Water Quality Standards for Wisconsin Surface Waters, November 2010 of the Wisconsin Administrative Code.)

- The Fecal Coliform results were analyzed by Pace Analytical Services, Inc., 1241 Bellevue Street, Suite 9, Green Bay, WI 54302.
- Ammonia Nitrogen, Total Phosphorus, Nitrate-Nitrite, Dissolved Solids (TDS), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen (TKN), and Biochemical Oxygen Demand (BOD) were analyzed by the Region 5 Chicago Regional Laboratory.

### **3. POTENTIAL VIOLATIONS**

According to Section 301(a) of the Clean Water Act, it is a violation to discharge pollutants from a CAFO to waters of the United States without a permit. EPA observed potential discharges in the following location:

1. Process wastewater from the waste feed from the west and south sides of the silage pad to the West Ditch which flows to the perennial unnamed tributary.
2. Manure and process wastewater from the leachate from the manure pile stored in the southern feed bunker to the West Ditch which flows to the perennial unnamed tributary.
3. Manure and process wastewater from the pipes in the northwest corner of Pasture #3 to the East Ditch and then to the perennial unnamed tributary. The pipes transport manure and process wastewater from the calf hutches and stacks of used bedding between the Main Barn and Barn #2.
4. Manure and process wastewater from piles of manure and used bedding that were stacked on the north side of the Main Barn to the roadside ditch which flows during precipitation events to the East Ditch and then to the perennial unnamed tributary.

### **4. AREAS OF CONCERN**

EPA observed these areas of concern whereby pollutants have the potential to reach waters of the United States:

1. Manure and process wastewater from track in and track out of manure and feed and feed from the feed lane from the Machine Shed where a dozen close-up cows are confined had the potential to flow to the West Ditch and then to the perennial unnamed tributary by precipitation.
2. Process wastewater from feed spilled below the bulk bins can be transported by precipitation to the West Ditch and then to the perennial unnamed tributary.
3. Process wastewater from track in and track out of sawdust from the bunker had the potential to flow with precipitation into Pasture #1 and then to the perennial unnamed tributary.
4. Process wastewater from the feed lane of the Dry Cow Barn had the potential to flow with precipitation to the West Ditch and then to the perennial unnamed tributary.
5. Process wastewater from the pile of alternative bedding had the potential to flow with precipitation to Pasture #2 and then flow through pathways in the pastures to the perennial unnamed tributary.
6. Manure and process wastewater from the calf hutches and piles of used bedding on the south side of Barn #2 had the potential to flow with precipitation to either Pasture #2 or Pasture #3 and then flow through pathways in the pastures to the perennial unnamed tributary.
7. Manure and process wastewater from the cattle walkway had the potential to flow with precipitation to Pasture #2 and then flow through pathways in the pastures to the perennial unnamed tributary.



8. Manure and process wastewater from the calf hutches and piles of used bedding on the south side of the manure holding ponds had the potential to flow with precipitation to Pasture #3 and then to the East Ditch which flows to the perennial unnamed tributary.

5. **LIST OF ATTACHMENTS**

- A) Aerial photograph of Name of Facility with buildings, waterways and discharge pathways labeled.

Sandway Farm, LLC  
E1411 Bolt Road  
Denmark, WI 54208  
Kewaunee County  
44.341N, 87.699W

Attachment A

